

WHAT IS CLAIMED IS

5

1. A Web page creation apparatus comprising:

a Web page creation unit creating a Web page having  
operation items, the Web page creation unit creating the Web page  
based on operation-item display information, which is defined for a  
10 device where the Web page is displayed or a user of the device to  
indicate whether the displaying of each operation item is needed, so  
that some of the operation items the displaying of which is needed  
are displayed.

15

2. The Web page creation apparatus according to claim 1  
wherein the Web page creation unit comprises:

20 an operation-item style information creation unit  
creating first style information for each of the operation items the  
displaying of which is needed, based on the operation-item display  
information; and

an operation-item creation unit creating the operation  
25 items in the Web page according to the first style information

created by the operation-item style information creation unit.

5

3. The Web page creation apparatus according to claim 2 wherein the operation-item style information creation unit is provided to create the first style information by making reference to the operation-item display information.

10

4. The Web page creation apparatus according to claim 2 wherein the first style information is a data of XSL format.

15

5. The Web page creation apparatus according to claim 2 further comprising a second style information management unit managing second style information for all the operation items that can be displayed in the Web page, wherein the operation-item style information creation unit is provided to create the first style information by extracting style information corresponding to each of

20

25

the operation items the displaying of which is needed by the operation-item display information, from the second style information managed by the second style information management unit.

5

6. The Web page creation apparatus according to claim 5  
10 wherein the second style information is a data of XSL format.

15 7. The Web page creation apparatus according to claim 5  
wherein the operation-item style information creation unit comprises a third style information creation unit creating third style information, which is used to extract the style information  
corresponding to each of the operation items the displaying of which  
20 is needed by the operation-item display information, from the second style information, and the operation-item style information creation unit is provided to create the first style information by applying the third style information, created by the third style information creation unit, to the second style information.

25

8. The Web page creation apparatus according to claim 7 wherein the third style information is a data of XSL format.

5

9. The Web page creation apparatus according to claim 2 further comprising a processing identification data management unit managing processing identification information for identifying processing to be performed when one of the operation items is chosen, wherein the operation-item creation unit is provided to create each of the operation items by applying the first style information to the processing identification information managed by the processing identification data management unit, so that the processing identified by the processing identification information corresponding to the chosen operation item is performed.

20

10. The Web page creation apparatus according to claim 1 further comprising:

a request receiving unit receiving a request of acquisition of the Web page from the device and causing the Web page creation unit to create the Web page based on the request of

25

acquisition of the Web page; and

a Web page transmitting unit transmitting the Web page,  
created by the Web page creation unit, to the device.

5

11. A Web page creation apparatus comprising:

a Web page creation unit creating a Web page having  
10 operation items corresponding to functions of an external device;  
and

an inquiry unit transmitting an inquiry about usable  
functions of the external device to the external device,

wherein the Web page creation unit creates the Web  
15 page based on both operation-item display information, which is  
defined for a device where the Web page is displayed or a user of  
the device to indicate whether displaying of each operation item is  
needed, and usable function identification information, which is  
received from the external device in response to the inquiry of the  
20 inquiry unit and indicates the usable functions of the external device,  
so that the operation items corresponding to the usable functions of  
the external device are displayed.

25

12. The Web page creation apparatus according to claim  
11 wherein the Web page creation unit is provided to create the Web  
page so that the operation items corresponding to the usable  
functions of the external device indicated by the usable function  
5 identification information, among the operation items the displaying  
of which is needed by the operation-item display information, are  
displayed.

10

13. The Web page creation apparatus according to claim  
11 wherein the Web page creation unit comprises:

an operation-item style information creation unit  
15 creating first style information for each of the operation items the  
displaying of which is needed, based on the operation-item display  
information; and

an operation-item creation unit creating the operation  
items in the Web page by applying the first style information created  
20 by the operation-item style information creation unit, to the usable  
function identification information.

25

14. The Web page creation apparatus according to claim  
13 wherein the operation-item style information creation unit is  
provided to create the first style information by making reference to  
the operation-item display information.

5

15. The Web page creation apparatus according to claim  
10 13 wherein the first style information is a data of XSL format.

15 16. The Web page creation apparatus according to claim  
13 further comprising a second style information management unit  
managing second style information for all the operation items that  
can be displayed in the Web page, wherein the operation-item style  
information creation unit is provided to create the first style  
20 information by extracting style information corresponding to each of  
the operation items the displaying of which is needed by the  
operation-item display information, from the second style  
information managed by the second style information management  
unit.

25

17. The Web page creation apparatus according to claim  
16 wherein the second style information is a data of XSL format.

5

18. The Web page creation apparatus according to claim  
16 wherein the operation-item style information creation unit  
comprises a third style information creation unit creating third style  
10 information, which is used to extract the style information  
corresponding to each of the operation items the displaying of which  
is needed by the operation-item display information, from the second  
style information, and the operation-item style information creation  
unit is provided to create the first style information by applying the  
15 third style information, created by the third style information  
creation unit, to the second style information.

20

19. The Web page creation apparatus according to claim  
18 wherein the third style information is a data of XSL format.

25



20. The Web page creation apparatus according to claim  
13 wherein the operation-item creation unit is provided to create  
each of the operation items by applying the first style information to  
the usable function identification information, so that processing,  
5 concerning the function identified by the usable function  
identification information corresponding to the operation item  
concerned, is performed when one of the operation items is chosen.

10

21. The Web page creation apparatus according to claim  
11 further comprising:

a request receiving unit receiving a request of  
15 acquisition of the Web page from the device and causing the Web  
page creation unit to create the Web page based on the request of  
acquisition of the Web page; and

a Web page transmitting unit transmitting the Web page,  
created by the Web page creation unit, to the device.

20

22. The Web page creation apparatus according to claim  
25 11 wherein the inquiry unit is provided to transmit the inquiry about

the usable functions to the external device in accordance with SOAP.

5

23. A Web page creation apparatus comprising:

a Web page creation unit creating a Web page having  
operation items corresponding to functions of different external  
devices respectively; and

10

a permitted-function inquiry unit transmitting an inquiry  
about allowability of execution of a corresponding one of the  
functions for one of the operation items, to each of the external  
devices,

15

wherein the Web page creation unit creates the Web  
page based on both operation-item display information, which is  
defined for a device where the Web page is displayed or a user of  
the device to indicate whether displaying of each operation item is  
needed, and permitted-function identification information, which is  
received from the external devices in response to the inquiry of the  
permitted-function inquiry unit and indicates the allowability of  
execution of each of the functions, so that the operation items  
corresponding to the permitted functions of the external devices are  
displayed.

25

24. The Web page creation apparatus according to claim  
23 wherein the Web page creation unit is provided to create the Web  
page so that the operation items corresponding to the permitted  
functions of the external devices indicated by the permitted-function  
5 identification information, among the operation items the displaying  
of which is needed by the operation-item display information, are  
displayed.

10

25. The Web page creation apparatus according to claim  
23 wherein the Web page creation unit comprises:

an operation-item style information creation unit  
15 creating first style information for each of the operation items the  
displaying of which is needed, based on the operation-item display  
information; and

an operation-item creation unit creating the operation  
items in the Web page by applying the first style information created  
20 by the operation-item style information creation unit, to the  
permitted-function identification information.

25

26. The Web page creation apparatus according to claim  
25 wherein the operation-item style information creation unit is  
provided to create the first style information by making reference to  
the operation-item display information.

5

27. The Web page creation apparatus according to claim  
10 25 wherein the first style information is a data of XSL format.

15 28. The Web page creation apparatus according to claim  
25 further comprising a second style information management unit  
managing second style information for all the operation items that  
can be displayed in the Web page, wherein the operation-item style  
information creation unit is provided to create the first style  
20 information by extracting style information corresponding to each of  
the operation items the displaying of which is needed by the  
operation-item display information, from the second style  
information managed by the second style information management  
unit.

25

29. The Web page creation apparatus according to claim  
28 wherein the second style information is a data of XSL format.

5

30. The Web page creation apparatus according to claim  
28 wherein the operation-item style information creation unit  
comprises a third style information creation unit creating third style  
10 information, which is used to extract the style information  
corresponding to each of the operation items the displaying of which  
is needed by the operation-item display information, from the second  
style information, and the operation-item style information creation  
unit is provided to create the first style information by applying the  
15 third style information, created by the third style information  
creation unit, to the second style information.

20

31. The Web page creation apparatus according to claim  
30 wherein the third style information is a data of XSL format.

25

32. The Web page creation apparatus according to claim  
25 further comprising a function identification data management unit  
managing function identification information for identifying a  
corresponding one of the functions for one of the operation items  
5 wherein the operation-item creation unit is provided to create each  
of the operation items by applying the first style information to the  
function identification information, so that, when one of the  
operation items is chosen, processing concerning the function  
identified by the function identification information corresponding  
10 to the chosen operation item is performed.

15 33. The Web page creation apparatus according to claim  
32 wherein the Web page creation unit is provided to create  
extraction function identification information by extracting the  
function identification information, corresponding to the functions  
the allowability of execution of which is indicated by the permitted-  
20 function identification information, from the function identification  
data management unit, and the operation-item creation unit creates  
the operation items by applying the first style information to the  
extraction function identification information.

34. The Web page creation apparatus according to claim  
32 wherein the function identification data management unit further  
manages external-device identification information which identifies  
one of the external devices used as a location to which the inquiry  
5 about the allowability of execution of the corresponding function for  
one of the operation items is transmitted, and the permitted-function  
inquiry unit determines said one of the external devices based on the  
external-device identification information.

10

35. The Web page creation apparatus according to claim  
23 further comprising:

15 a request receiving unit receiving a request of  
acquisition of the Web page from a device and causing the Web page  
creation unit to create the Web page based on the request of  
acquisition of the Web page; and

a Web page transmitting unit transmitting the Web page,  
20 created by the Web page creation unit, to the device.

25

36. The Web page creation apparatus according to claim

23 wherein the permitted-function inquiry unit is provided to  
transmit the inquiry about the allowability of execution of the  
corresponding function for one of the operation items to each  
external device in accordance with SOAP.

5

37. A method of controlling Web page creation in a Web  
10 page creation apparatus which creates a Web page having operation  
items, comprising steps of:

creating first style information for each of the operation  
items displaying of which is needed, based on operation-item display  
information which is defined for a device on which the Web page is  
15 displayed or a user of the device to indicate whether the displaying  
of each operation item is needed; and

creating the operation items in the Web page according  
to the first style information created in the first creating step, so  
that some of the operation items the displaying of which is needed  
20 are displayed.

25 38. The method according to claim 37 wherein the first



creating step is provided to create the first style information by  
extracting style information corresponding to each of the operation  
items the displaying of which is needed by the operation-item  
display information, from second style information for all the  
5 operation items that can be displayed in the Web page.

10 39. The method according to claim 38 wherein the first  
creating step includes a step of creating third style information,  
which is used to extract the style information corresponding to each  
of the operation items the displaying of which is needed by the  
operation-item display information, from the second style  
15 information, and the first creating step is provided to create the first  
style information by applying the third style information created in  
the third creating step, to the second style information.

20

40. The method according to claim 37 wherein the  
second creating step is provided to create each of the operation  
items by applying the first style information to processing  
25 identification information for identifying processing to be performed

when one of the operation items is chosen, so that the processing identified by the processing identification information corresponding to the chosen operation item is performed.

5

41. A method of controlling Web page creation in a Web page creation apparatus which creates a Web page having operation items corresponding to functions of an external device, comprising steps of:

transmitting an inquiry about usable functions of the external device to the external device,

creating the Web page based on both operation-item display information, which is defined for a device where the Web page is displayed or a user of the device to indicate whether displaying of each operation item is needed, and usable function identification information, which is received from the external device in response to the inquiry and indicates the usable functions of the external device, so that the operation items corresponding to the usable functions of the external device are displayed.

25

42. The method according to claim 41 wherein the  
creating step includes:

creating first style information for each of the operation  
items the displaying of which is needed, based on the operation-item  
5 display information; and

creating the operation items in the Web page by  
applying the first style information created in the first style  
information creating step, to the usable function identification  
information.

10

43. The method according to claim 42 wherein the first  
15 style information creating step is provided to create the first style  
information by extracting style information corresponding to each of  
the operation items the displaying of which is needed by the  
operation-item display information, from second style information  
for all the operation items that can be displayed in the Web page.

20

44. The method according to claim 43 wherein the first  
25 style information creating step is provided to create the first style

information by applying third style information, which is used to  
extract the style information corresponding to each of the operation  
items the displaying of which is needed by the operation-item  
display information, from the second style information, to the  
5 second style information.

10 45. A method of controlling Web page creation in a Web  
page creation apparatus which creates a Web page having operation  
items corresponding to functions of different external devices  
respectively, comprising steps of:  
transmitting an inquiry about allowability of execution  
15 of a corresponding one of the functions for one of the operation  
items, to each of the external devices; and  
creating the Web page based on both operation-item  
display information, which is defined for a device where the Web  
page is displayed or a user of the device to indicate whether  
20 displaying of each operation item is needed, and permitted-function  
identification information, which is received from the external  
devices in response to the inquiry and indicates the allowability of  
execution of each of the functions, so that the operation items  
corresponding to the permitted functions of the external devices are  
25 displayed.

46. The method according to claim 45 wherein the Web page creating step includes:

creating first style information for each of the operation items the displaying of which is needed, based on the operation-item display information; and

creating the operation items in the Web page by applying the created first style information to the permitted-function identification information.

10

47. The method according to claim 46 wherein the first style information is created by extracting style information corresponding to each of the operation items the displaying of which is needed by the operation-item display information, from second style information for all the operation items that can be displayed in the Web page.

20

48. The method according to claim 47 wherein the operation-item creating step includes creating third style information, which is used to extract the style information corresponding to each

25

of the operation items the displaying of which is needed by the  
operation-item display information, from the second style  
information, and the operation-item creating step is provided to  
create the first style information by applying the created third style  
5 information to the second style information.

10 49. The method according to claim 46 wherein each of  
the operation items is created by applying the first style information  
to function identification information for identifying a  
corresponding one of the functions for one of the operation items, so  
that, when one of the operation items is chosen, processing  
15 concerning the function identified by the function identification  
information corresponding to the chosen operation item is performed.

20 50. The method according to claim 49 wherein  
extraction function identification information is created by  
extracting the function identification information, corresponding to  
the functions the allowability of execution of which is indicated by  
25 the permitted-function identification information, from the function

identification information, and the operation items are created by applying the first style information to the extraction function identification information.

5

51. A computer program product embodied therein to cause a computer to execute a Web page creation method which creates a Web page having operation items, the method comprising steps of:

creating first style information for each of the operation items displaying of which is needed, based on operation-item display information which is defined for a device on which the Web page is displayed or a user of the device to indicate whether the displaying of each operation item is needed; and

creating the operation items in the Web page according to the first style information created in the first creating step, so that some of the operation items the displaying of which is needed are displayed.

25

52. The computer program product according to claim

51 wherein the first creating step is provided to create the first style  
information by extracting style information corresponding to each of  
the operation items the displaying of which is needed by the  
operation-item display information, from second style information  
5 for all the operation items that can be displayed in the Web page.

10                   53. A computer program product embodied therein to  
cause a computer to execute a Web page creation method which  
creates a Web page having operation items corresponding to  
functions of an external device, the method comprising steps of:  
                  transmitting an inquiry about usable functions of the  
15 external device to the external device; and  
                  creating the Web page based on both operation-item  
display information, which is defined for a device where the Web  
page is displayed or a user of the device to indicate whether  
displaying of each operation item is needed, and usable function  
20 identification information, which is received from the external  
device in response to the inquiry and indicates the usable functions  
of the external device, so that the operation items corresponding to  
the usable functions of the external device are displayed.

25



54. The computer program product according to claim  
53 wherein the creating step includes:

creating first style information for each of the operation  
items the displaying of which is needed, based on the operation-item  
5 display information; and

creating the operation items in the Web page by  
applying the first style information created in the first style  
information creating step, to the usable function identification  
information.

10

55. A computer program product embodied therein to  
15 cause a computer to execute a Web page creation method which  
creates a Web page having operation items corresponding functions  
of different external devices respectively, the method comprising  
steps of:

transmitting an inquiry about allowability of execution  
20 of a corresponding one of the functions for one of the operation  
items, to each of the external devices; and

creating the Web page based on both operation-item  
display information, which is defined for a device where the Web  
page is displayed or a user of the device to indicate whether  
25 displaying of each operation item is needed, and permitted-function

identification information, which is received from the external devices in response to the inquiry and indicates the allowability of execution of each of the functions, so that the operation items corresponding to the permitted functions of the external devices are  
5 displayed.

10                   56. The computer program product according to claim  
55 wherein the Web page creating step includes:  
                  creating first style information for each of the operation  
items the displaying of which is needed, based on the operation-item  
display information; and  
15                   creating the operation items in the Web page by  
applying the created first style information to the permitted-function  
identification information.

20  
  
                  57. An information processing device including a built-  
in communication device which communicates with an external  
device connected via a network, comprising:  
25                   a Web page creation unit creating a Web page having

operation items corresponding to functions of the external device;  
and

a display unit displaying the Web page created by the  
Web page creation unit,

5                wherein the Web page creation unit creates the Web  
page based on both operation-item display information, which is  
defined for a device where the Web page is displayed or a user of  
the device to indicate whether displaying of each operation item is  
needed, and usable function identification information, which is  
10        received from the external device in response to an inquiry from the  
communication device and indicates the usable functions of the  
external device, so that the operation items corresponding to the  
usable functions of the external device are displayed.

15

58. An information processing device including a built-  
in communication device which communicates with a plurality of  
20        external devices connected via a network, comprising:

a Web page creation unit creating a Web page having  
operation items corresponding to functions of the external devices  
respectively; and

a display unit displaying the Web page created by the  
25        Web page creation unit,

wherein the Web page creation unit creates the Web page based on both operation-item display information, which is defined for a device where the Web page is displayed or a user of the device to indicate whether displaying of each operation item is needed, and permitted-function identification information, which is received from the external devices in response to an inquiry from the communication device and indicates the allowability of execution of each of the functions, so that the operation items corresponding to the permitted functions of the external devices are displayed.

10

59. A Web page creation apparatus comprising:

15

a Web page creation unit creating a Web page;

a first storage unit managing common information which is defined in common for two or more users to indicate operation items being displayed in the Web page;

20

a second storage unit managing individual information which is defined for each user to indicate operation items the displaying of which is unneeded, among all the operation items defined in the common information,

25

wherein the Web page creation unit is provided to create the Web page so that the operation items, extracted from all the operation items of the common information based on the individual

information are displayed.

5

10

15

20

25